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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/081,164 | 02/22/2002 | Charles Abraham | GLBL/020 | 8383 |

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EXAMINER

ISSING, GREGORY C

ART UNIT PAPER NUMBER

3662

DATE MAILED: 04/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | | |
|-----------------|-------------------|--------------|----------------|
| Application No. | 10/081,164 | Applicant(s) | ABRAHAM ET AL. |
| Examiner | Gregory C. Issing | Art Unit | 3662 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 January 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-48 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) Interview Summary (PTO-413) Paper No(s) _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-25 and 31-47 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Russell et al.

3. Russell et al disclose a description of operation of the Control Segment of GPS including the distribution of satellite tracking data, ephemeris and almanac, e.g., to a remote receiver user. The system comprises a Master Control Station MCS controlling the operation of the Control Segment and performing the computations to determine satellite navigation messages from data received via a plurality of Monitoring Stations MS. The Master Control Station MCS provides the data to a plurality of sites including an Upload Station ULS, a Satellite Control Facility SCF and the Naval Surface Weapons Center NSWC. The Upload Station ULS receives the satellite navigation messages from the Master Control Station and transmits it via an uplink to the GPS satellites that further provide it via a downlink to a remote receiver user. The navigation message uploads include a 6-hour upload and a 26-hour upload. Each of the Upload Station and satellite meet the method and apparatus for receiving tracking data from the Master Control Station, representing it in a format supported by a remote receiver via the frequency selection for example, and transmitting the data to a remote receiver. The data transmitted to the navigation satellites and subsequently transmitted to the remote receivers include almanac, ephemeris, clock corrections, etc. As is known, almanac data is “valid” for several weeks.

4. The applicant argues that Taylor et al fail to show transmission of data that is valid for at least four hours; Taylor et al, however, show the respectively claimed parts of the system including a remote control station 12, responsive to a satellite control station 18, for transmitting satellite tracking data to a remote receiver 14. Additionally, applicant argues that King does not teach receiving data from a satellite control station but rather from a mobile switching center which does not upload tracking data to the satellites. The newly cited reference to Russell et al disclose uploading of satellite tracking data, which according to different uploads, are valid for 6 hours and 26 hours, respectively, wherein the upload station and/or the satellite each meet the scope of (1) receiving tracking data from a satellite control station, (2) representing it in a format supported by a remote user receiver, and (3) transmitting the tracking data to the remote user receiver. The tracking data uploaded consists of satellite ephemeris and clock error parameters which are valid for 6 and 26 hours, each of which meets the scope of “at least four hours.” Additionally and inherently, the same upload consists of transmitting almanac data, which is well-known to be valid for long periods of time, approximately 180 days. Thus, the applicant’s arguments do not overcome what is known in the art, and in fact, the method of claim 1 would be met by each and every GPS satellite that transmits a navigation message since it receives the tracking data daily as it passes over the satellite control station and provides it in a format that is capable of being used by a remote user receiver.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-25 and 31-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al in view of Taylor et al.
7. King et al teach a system 300 comprised of a base station 302 which receives satellite tracking data, of GPS or GLONASS, either directly from the satellites or, alternatively, remotely transmitted to the base station. The base station formats satellite position curve fit data and clock correction data from the received satellite ephemeris information and clock correction information and transmits the information to remote mobile stations 304 at predetermined intervals either directly or via a satellite. In general, any continuously varying function can be modeled with an infinite order polynomial to describe the motion of the satellite as a function of time to define the satellite position curve fit data. Figure 5 exemplifies a base station that may receive directly (504) or remotely (TP PSTN – 512) the satellite ephemeris information and clock correction information from a satellite or via an external communication network. In King et al, the base station's receiving of the satellite ephemeris information and clock correction information meets the scope of "receiving satellite tracking data" from a station, and the subsequent derivation of the curve fit data meets the scope of the step/apparatus of "representing at least a portion of said tracking data in a format supported by the remote receiver." The base station's transmission of the curve fit data clearly suggests the claimed "transmitting the formatted data to the remote receiver."
8. King et al differ from the claimed subject matter since the ephemeris/clock data received at the base station is not specified as being provided by "a satellite control station"; King et al generally defines receiving the data from a receiver located remotely from the base station that

has the capability of determining the satellite ephemeris/clock data. Taylor et al teach the use of a Master Control Station to function as a source of determining satellite ephemeris/clock data as well as to transfer ephemeris/clock data to a control station that formats the data for transmission to mobile users for aiding the said mobile users' navigation devices. King et al also differ from the claimed subject matter since the time of validity is not specified. King et al do teach the use of a continuously variable function modeled with an infinite order polynomial that is a function of time; the curve data represents a prediction of satellite position as a function of time with no time limitations. There is nothing that would invalidate the curve data from being used at a later time, including at least four hours later.

9. The claims of the instant invention fail to provide any definite limitation with regard to

the term "valid" and what would constitute the data being valid for a predetermined time.

10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify King et al by receiving at the base station the ephemeris/clock data from the GPS Master Control Station in view of the teachings of Taylor et al since it is well-known that the GPS Master Control Station is known to provide almanac and ephemeris/clock data information to a remote control base station said base station used in the capacity for subsequently providing aiding information to remote user stations. As the scope of "valid" is open-ended and the curve fit data of King et al is merely a polynomial function of time, the polynomial function continues to provide satellite position data as a function of time that is deemed to be valid. The dependent claims are shown and/or are obvious modifications to the combined prior art.

11. The applicants argue that King et al do not suggest receiving satellite tracking data from a satellite control station and that the mobile switching center is not a satellite control station since it does not upload satellite tracking data to the satellites. Firstly, King et al do teach a base station receiving the ephemeris/clock data from a remote site via a communication link, see Figure 5; the use of a mobile switching center is not restricting. Secondly, the instant claim does not define any requirement for uploading tracking data to the satellites. Thirdly, the combination with Taylor et al suggests the use of the GPS Master Control Station providing the data to a base station. Applicants additionally argue that Taylor et al do not suggest transmitting formatted satellite tracking data that is valid for at least four hours since Taylor et al teach the remote control station transmitting spatial coordinates. However, King et al teach transmitting curve fit data that is “valid” at any subsequent time since it is based on a continuously variable polynomial function of time. (Note: McBurney et al 5,402,347 teach in col. 7, lines 33-37, that ephemeris information is useful for five or six hours after collection). Additionally, it is not seen how the claimed use of ephemeris data used to provide the claimed formatted data differs from the use of the prior art’s use of ephemeris data, particularly with respect to the time validity. Applicants argument that since claims 2-25 and 32-47 depend from the independent claims 1 and 31 and since claims 1 and 31 are not anticipated, then claims 2-25 and 32-47 are patentable, is not persuasive. Claims 2-25 and 32-47 therefore stand or fall with the independent claims.

12. Claims 26-28 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al in view of Taylor et al and Moore et al.

13. King et al in view of Taylor et al teach the subject matter substantially as claimed as previously set forth above but fail to show the use of the Internet as the communication link

between the base station and the remote mobile stations. Moore et al teach the conventionality of accessing navigation satellite data including status, almanac and ephemeris data via a web page. It is well known that almanac data is valid for several weeks while status information is valid for as long as predetermined statuses are present. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide navigation satellite services via a web server in view of the teachings of Moore et al and thereby provide accessible navigation tracking data to remote users via one of the conventional communication links available.

14. Applicants argue that the combination of references fails to suggest the noted dependent claims since they depend from the independent claims that recite the feature of receiving satellite tracking data from a satellite control station. This argument is not persuasive; see arguments above with respect to the combination of King et al and Taylor et al for providing the teaching of a GPS Master Control Station providing the satellite trajectory/clock data to a base station aiding remote mobile users.

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 16, 17, and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abraham et al (US2003/0014188) disclose a substantially similar method and

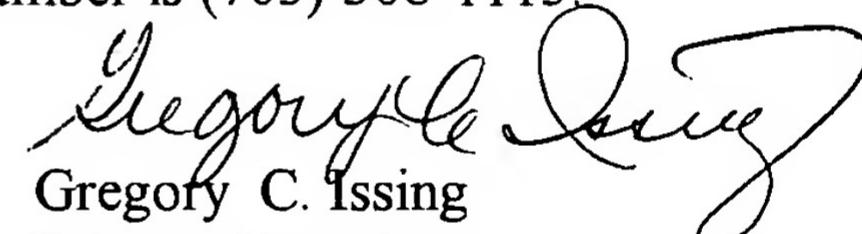
apparatus but instead of receiving the satellite tracking data from a satellite control station, the data is accessed from an STD database connected to a server.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (703)-306-4156.

The examiner can normally be reached on Mon-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703)-306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Gregory C. Issing
Primary Examiner
Art Unit 3662

gci
April 1, 2003